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WOOLLY-POD MILKWEED: A DANGEROUS STOCK-POISONING PLANT.

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For many years it has been known, or believed, that live stock, especially sheep, are poisoned by some kinds of milkweed. There has been very little exact knowledge in regard to the particular weeds which were dangerous or in regard to the quantity of plant which was necessary to cause trouble. Work done in recent years by the United States Department of Agriculture and the experiment stations of Colorado and Nevada has very largely cleared up our knowledge in regard to the whorled milkweeds, some species of which have been found to be extremely poisonous.

DESCRIPTION OF PLANT.

The "woolly-pod milkweed," *Asclepias eriocarpa*, has long been suspected of making trouble but has not been studied in detail. This is a plant which, so far as known, grows only in California and in that State is confined to the western portion, except in southern California where it occurs across the full width of the State. Figure 1 shows the form of the leaves and the flowers. Superficially it resembles very much the ordinary showy milkweed, *Asclepias speciosa*, which is distributed all over the northern part of the United States. It differs, however, in some details. The tips of the leaves are more blunt than those of the showy milkweed and the pods are woolly,

while those of the showy milkweed are armed with soft, prickly projections.

Last summer (1922) the United States Department of Agriculture carried on a series of feeding experiments, the material for which

FIG. 1.—Woolly-pod milkweed.

was furnished through the kindness of Prof. H. M. Hall, of the Carnegie Institution. The results of these experiments have been very interesting and will be published in detail later. This circular is issued so that stock owners of California may be on their guard and perhaps prevent some serious losses.

ANIMALS AFFECTED BY THE PLANT.

The losses ascribed to the woolly-pod milkweed have been almost entirely of sheep. Experimental work, however, has shown that it is equally poisonous to cattle and presumably would poison horses if they could be induced to eat it.

SYMPTOMS.

The first and perhaps the most marked symptom of poisoning is depression, which is shown in the lowered head and humped back of the animal. This depression is followed by weakness, the poisoned animal lying down most of the time. The severely poisoned animals have a marked diarrhea and a complete loss of appetite during the time of the illness. The effects of the plant come on ordinarily only after a considerable period of time succeeding the feeding. This period averages as much as 16 hours, and the illness continues, in those that recover, for two days or more.

QUANTITY NECESSARY TO POISON.

It has been found that the plant is extremely poisonous. Less than 2 ounces may poison a sheep of average size and 3 ounces may kill such an animal. The poisonous dose for cattle is about the same as that for sheep if computed in percentage of weight. Not only is this plant very poisonous but experimental work seems to indicate that fatal results probably will follow feeding on it.

DANGER IN HAY.

Inasmuch as the dry plant also is poisonous, it is evident that there may be danger from hay in which there is any considerable quantity of the woolly-pod milkweed.

RELATION OF SHORT FEED TO POISONING.

As is true of the great majority of poisonous plants, the woolly-pod milkweed is not attractive to animals, and probably is rarely eaten except when they are deprived of other forage. When animals are grazed on a range from which other forage has been largely consumed, or if they are confined in corrals or pastures where there is little else, they are likely to eat enough of the plant to cause serious trouble. If people who handle sheep and cattle will recognize the poisonous character of the plant and so handle their animals that they do not graze on milkweed-infested areas at times when especially hungry probably very little trouble will result.

REMEDIES FOR WOOLLY-POD MILKWEED POISONING.

At present no effective remedies for the poison are known. Poisoned animals of course should be kept quiet and perhaps some beneficial effect would be produced by giving a laxative like Epsom salt or oil. The main reliance, however, in the case of milkweed, as in that of most other poisonous plants, must be placed on prevention rather than cure.

PUBLICATIONS ON STOCK-POISONING PLANTS AVAILABLE FOR FREE DISTRIBUTION.

Eradication of Ferns from Pasture Lands in Eastern United States. (Farmers' Bulletin 687.)
Eradicating Tall Larkspur on Cattle Ranges in the National Forests. (Farmers' Bulletin 826.)
Larkspur, or "Poison Weed." (Farmers' Bulletin 988.)
The Loco-Weed Disease. (Farmers' Bulletin 1054.)
The Stock-Poisoning Death Camas. (Farmers' Bulletin 1273.)
The Cause of the "Spewing Sickness" of Sheep. (Leaflet A. 9.)
Cicuta (Water Hemlock) as a Poisonous Plant. (Leaflet A.–15.)
White Snakeroot or Richweed as a Stock-Poisoning Plant. (Leaflet A. I.–26.)
Poisoning of Livestock by Oak. (Leaflet A. I.–32.)
Notes on Larkspur Eradication on Stock Ranges. (Leaflet A. I.–34.)
Eupatorium urticoefolium as a Poisonous Plant. (Reprint from Journal of Agricultural Research, A–33.)
Astragalus Tetrapterus, a New Poisonous Plant of Utah and Nevada. (Department Circular 81.)
A New Sheep Poisoning Plant of the Southern States. (Department Circular 82.)
The Whorled Milkweed, a Plant Poisonous to Livestock. (Department Circular 101.)

PUBLICATIONS FOR SALE BY SUPERINTENDENT OF DOCUMENTS.

Cicuta, or Water Hemlock. (Department Bulletin 69.) Price, 10 cents.
Zygadenus, or Death Camas. (Department Bulletin 125.) Price, 15 cents.
Larkspur Poisoning of Livestock. (Department Bulletin 365.) Price, 25 cents.
Lupines as Poisonous Plants. (Department Bulletin 405.) Price, 10 cents.
Stock-Poisoning Plants of the Range. (Department Bulletin 575.) Price, 50 cents.
Stagger Grass as a Poisonous Plant. (Department Bulletin 710.) Price, 5 cents.
Oak-Leaf Poisoning of Domestic Animals. (Department Bulletin 767.) Price, 10 cents.
The Whorled Milkweed as a Poisonous Plant. (Department Bulletin 800.) Price, 15 cents.
Poisonous Properties of the Whorled Milkweed Asclepias Pumila and A. Verticillata Var. Geyeri. (Department Bulletin 942.) Price, 10 cents.
Western Sneezeweed as a Poisonous Plant. (Department Bulletin 947.) Price, 10 cents.
The Mexican Whorled Milkweed as a Poisonous Plant. (Department Bulletin 969.) Price, 5 cents.
The Death Camas Species, Zygadenus Paniculatus and Z. Elegans, as Poisonous Plants. (Department Bulletin 1012.) Price, 15 cents.
The Loco-Weed Disease of the Plains. (Bureau of Animal Industry Bulletin 112.) Price, 35 cents.

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